

Arboreta and Botanic Gardens

Arboretum Library
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Colorful, thrifty

WATER CONSERVATION GARDEN

Late spring rains this year changed drought from crisis to chronic for Southern California's gardeners. Threatened water rationing, it seems, will not occur in 1989. With the luxury of water available for at least another season, wise gardeners can now begin adapting their landscapes to conserve water, avoiding the risk of losing their entire landscape to a future drought.

The new Henry C. Soto Water Conservation Garden, dedicated at the Los Angeles State and County Arboretum last fall, is a model for the sensible adaptation that will work in a typical garden. It is not xerophytic, a completely dry landscape of

tough plants that can survive with absolutely no artificial irrigation. Instead, this colorful mix of perennials, trees and shrubs uses many of the same plants that grace California gardens, because a surprising number of garden favorites actually thrive with less water than solicitous gardeners usually give them.

What makes this a conservation-conscious garden is both the choice of plants and the manner in which water is applied.

(Conservation continues on page 2)



The plant list is not static, instead it evolves as plants are tested for how well they adapt to water conservation practices. Agapanthus and coral bells grow here as well as the floss silk tree and succulents that would be expected in a dry garden.

State of the art irrigation equipment includes drip emitters and timers that can be manually overridden. Water is applied until it penetrates to a depth of 18 inches. The objective is to determine how

long the garden can go between waterings with the goal of stretching the interval to 30 days during the hot season rather than regular weekly application.

To encourage gardeners to act on the inspiration and ideas they see in the garden, the Arboretum offers free publications on water conservation in the Visitors Center. Brochures from organizations such as Sunset Magazine, Metropolitan Water District and Los Angeles Department of Water and Power will guide gardeners in adapting their own landscapes to prepare for water shortages in the future.

FRANCIS CHING HONORED FOR LIFETIME OF HORTICULTURAL CONTRIBUTIONS

Francis Ching, Director of the Los Angeles County Department of Arboreta and Botanic Gardens, was recently named the 1989 recipient of the Arthur Hoyt Scott Garden and Horticulture Award. Established in 1929 at Swarthmore College, the award each year honors an individual who has made outstanding national contributions to the science and art of gardening. Mr. Ching's selection for this prestigious honor was based on his many contributions and achievements during the 19 years he has served as Director of this four-garden department in Los Angeles County.

Southern Californians have benefited most from his successes in expanding the Los Angeles State and County Arboretum's original mission of introducing new plants into the Southern California landscape. Under his direction, 54 new plants have been introduced from among the thousands field tested at the Arboretum. Several introductions have become familiar fixtures along California freeways, landscapes and private gardens. Caltrans has planted a variation of the white *Osteospermum fruticosum*, now simply called the "freeway daisy," as well as hundreds of named cultivars of floss silk trees (*Chorisia speciosa*) and other introductions along Southland freeways where they punctuate the fall landscape with flowing masses of color.

Each year, 700 to 1,000 schools participate in the Arboretum's Arbor Day Program, planting a tree supplied by the Department. Through the program, started 10 years ago, hundreds of thousands of children have learned about the value of trees in their environment through resource information supplied by the Department as a part of the Arbor Day program. This has also been an effective means of introducing new Arboretum plant

introductions to the landscape and as a community outreach program.

Mr. Ching's contributions to the gardening profession are numerous and varied. While serving as president of the American Association of Botanic Gardens and Arboreta (AABGA), he was instrumental in establishing a certification



David Fraser, (left) Swarthmore College President, congratulates Francis Ching, Claremont, after presenting him with the Arthur Hoyt Scott Garden and Horticulture Award. Mr. Ching, Director of the Los Angeles County Department of Arboreta and Botanic Gardens, is the first Californian to win the award in its 60 year history.

program for professional gardeners. He was active on the AABGA's Plant Collections Committee, which published the *Preliminary Directory of Living Plant Collections in North America*, a widely used resource by botanists and scientists. Other publications under his direction include numerous gardening brochures, as well as two widely received books, *Color in the Landscape* and *Exceptional Trees of Los Angeles*, published with the support of the California Arboretum Foundation.

In 1980, aided by a grant from the Institute

of Museum Services, Mr. Ching established a summer Horticultural Intern Program at the Arboretum which has since been expanded to include the other three public gardens under his management. Under this program, each year as many as 24 horticultural students from countries worldwide benefit from practical training in these public gardens.

In 1981 Mr. Ching was instrumental in reviving the tradition of a major Southern California gardening exposition, dormant since the late 1960s, when he launched the first Los Angeles Garden Show at the Los Angeles State and County Arboretum. Now, eight years later, this has become a highly popular fall event enthusiastically supported by the area's horticultural and landscape industry. More recently two new horticultural displays of great interest have been added to the others at the Arboretum. The first is a display of the effects of air pollution on plants. The second is the development of a Water Conservation Garden which emphasizes that a colorful and green garden can be accomplished all year through water conserving programs.

Beginning his association with the Los Angeles County Department of Arboreta and Botanic Gardens in 1956, Mr. Ching held a variety of positions, including grounds maintenance, Research Assistant, Chief Horticulturist and Superintendent of the Los Angeles State and County Arboretum prior to

his appointment as Director in 1970. The Department, an agency of Los Angeles County government, operates four separate public gardens, including the Los Angeles State and County Arboretum in Arcadia, Descanso Gardens in La Canada Flintridge, South Coast Botanic Garden on the Palos Verdes Peninsula and the Virginia Robinson Gardens in Beverly Hills.

Throughout his career Mr. Ching has been an active participant in the American Association of Botanic Gardens and Arboreta, having served on the Board of Directors and on various committees of the Association as well as holding the offices of vice-president and president. In recognition of his many years of service and leadership to that organization he was awarded an Honorary Life Membership in 1986. Additionally, he serves on review boards for Museum Accreditation and the Museum Assessment Program of the American Association of Museums. He has also served, or now serves, on various other boards including the American Horticultural Society, Sunset Magazine, Longwood Gardens, the United States National Arboretum in Washington, D.C., Los Angeles Beautiful and the San Diego Zoo.

On May 21, Mr. Ching was keynote speaker at the annual meeting of the Associates of the Scott Arboretum in Swarthmore, PA, where he accepted the Arthur Hoyt Scott Garden and Horticulture Award.

COUNTY ARTS AND HUMANITIES AWARDED TO JOAN SELWYN

Joan (Mrs. Paul) Selwyn has been named top 1989 volunteer for Los Angeles County in the category of arts and humanities. She was nominated for the award after being named Volunteer of the Year by the Department of Arboreta and Botanic Gardens.

Mrs. Selwyn's work on behalf of the Virginia Robinson Gardens in Beverly Hills operated by the Department exemplifies the the spirit of volunteerism at its best.

"...volunteering for the County has been an integral part of my life...I love where I live and anything I can do to help preserve the integrity and beauty of this community is a privilege and a pleasure," she says.

In six years of volunteer efforts at the Virginia Robinson Gardens, Mrs. Selwyn worked more than 3,000 hours and raised more than \$370,000 to help with the upkeep and restoration of the estate. *(Volunteer continued on page 4)*



Joan Selwyn and Francis Ching attend the Los Angeles County Volunteer of the Year luncheon.

(Volunteer continued from page 3)

When the 80-year-old estate became the property of the Department in 1977, it was shabby indoors and out. Overcoming many challenges, she was able to gather 160 members of the community to form a support group called the Friends of Robinson Gardens to aid with the preservation and restor-

ation. She not only raised money, but she also persuaded an architectural historian, botanists and preservation societies to help with the work.

Listed on the National Register of Historical Places, the garden is now on the road to recovering its previous splendor through the dedicated efforts of Joan Selwyn.

NEW GREENHOUSE BOASTS STATE-OF-THE-ART EQUIPMENT

A new orchid greenhouse, the initial project of an \$8 million capital improvement program, was completed recently at the Los Angeles State and County Arboretum. The 4,500-square-foot clearspan structure is the first of its kind on the grounds.

An innovation that eliminates side aisles increases growing space by 20 percent. In traditional greenhouses only about 65 percent of the area can be used for benches.

The additional growing area is gained by using rolling benches that can be pushed to space at either end, opening up an aisle for access to plants when they need attention. In normal position the benches form an unbroken surface from one end of the greenhouse to the other.

Plants inside receive the full spectrum of sunlight through walls and ceiling of Dynaglass, a polycarbonated plastic made by Paltough. Clear as glass, it won't break and tests show that it will last 20 years without discoloring.

A motorized screen can be unfurled to filter out 65 percent of the sunlight on bright days. On

gloomy days the screen can be retracted against an end wall.

Orchidist Earl Ross will oversee the greenhouse from an office on the south end. This space will also be used for propagating orchid seedlings for the Arboretum.

ORCHID SYMPOSIUM SEPTEMBER 16

9 a.m. - 2 p.m. - Specialists Speak

Denis Duveen "Adventures on the Trail of *Cattleya dormaniana*"

Jim Folsom "Heyday of Orchid Discovery"

Jack Fowlie "China: Awash in the Bitter Sea"

Earl Ross "Orchids: Their Botany and Culture"

2 p.m. - 4 p.m. - Tours of greenhouses, more than 10,000 orchids on display

Los Angeles State and County Arboretum
301 N. Baldwin Ave., Arcadia, CA 91006

(818) 446-8251

\$17.50 Registration - includes box lunch



AIR POLLUTION DEMONSTRATION

Twin greenhouses present evidence

The Los Angeles State and County Arboretum just reopened demonstration greenhouses where plants illustrate damage caused by air pollution. From April through October visitors to the Arboretum can walk through the twin greenhouses. In one greenhouse the air is pure, 90 percent of the contaminants have been removed by charcoal filters. The other greenhouse contains the same, often unhealthful, air that visitors breathe.

Effects of air pollution concern visitors from around the world, since the damages of air pollution are not limited to Southern California. Pollution affects humans directly by damaging their health and indirectly by cutting into the food supply; damaged plants not only produce less vibrant fruits, but their yields are diminished.

C. Ray Thompson and Gerrit Kats from the University of California Riverside have served as consultants on the project since it began in 1986.

"The greenhouses are educational displays showing how smog damage varies among plants," says Arboretum superintendent John Provine. "They are not meant to tell people what plants to grow." The Arboretum greenhouses are used to display effects of air pollution.

Gloria Shams, Arboretum nurseryworker, chooses commonly grown plants for the greenhouses. Camel-

lias, miniature roses and pansies show little smog damage she says. "On the other hand, petunias suffer most," Ms. Shams explained. "Damage to the leaves and flowers is usually visible within a couple of weeks after a smog episode."

Smog also affects vegetables. Celery, carrots, parsley, beans, corn and tomatoes have all shown damage in the past. Squash was one of the few vegetables that wasn't affected.

Bermudagrass, succulents and trees such as birches, maples and oaks seem able to withstand smog. Other resistant plants are oleanders, geraniums, junipers and hibiscuses.

In 1988 the California State Air Resources Board renewed their grant, providing a digital readout screen to display numerical evidence of pollution levels registered inside the greenhouse. This year, a new Macintosh computer screen attached to the smog monitor shows this information in color graphics.

Workers in the greenhouse augment the displays by pointing out details on smog damaged plants. They also encourage visitors to fill out a questionnaire about additions they would like to see. Beside photographic evidence of smog damage, the interpretive center also offers educational displays and brochures to visitors.



Older leaf of bean plant exhibits most damage.



Ozone killed cells in petunia leaves, leaving white patches.

No remedy in sight

Borer Marches on Area Eucalyptus

Although the deadly eucalyptus longhorned borer (*Phoracantha semipunctata*) continues to spread throughout California, eucalypts at the county gardens have not been affected so far. The borer has been found in the communities of Arcadia, Claremont and Palos Verdes, so good cultural practices, not isolation, may be what protects the gardens' trees.

Eucalypts offer so many essential qualities for the local landscape that it's worth investigating what has been learned about the beetle since it invaded the state about eight years ago.

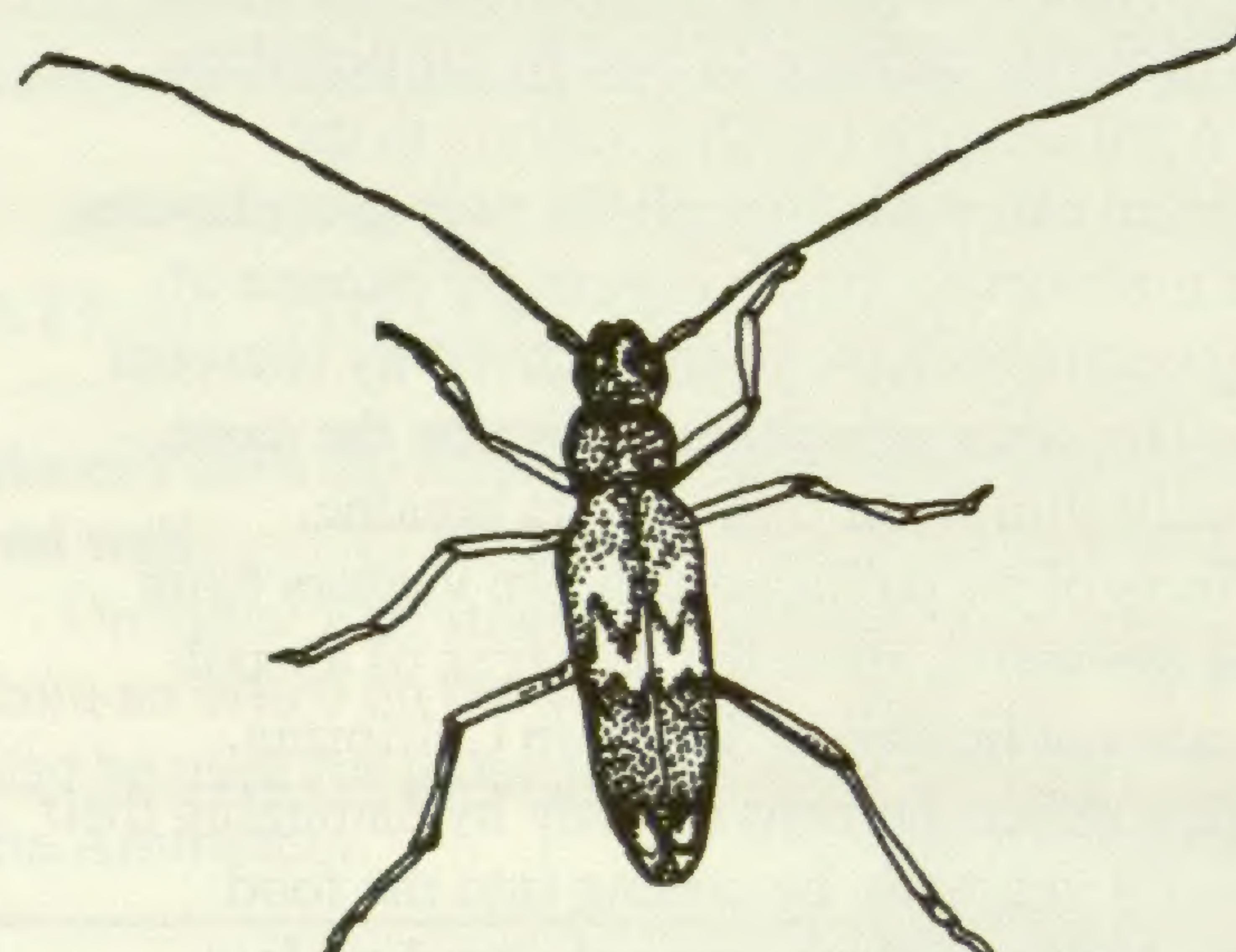
First, it's probably a mistake to hope some "magic bullet" such as a biological or chemical control will be developed soon. Second, because the adult borer travels up to nine miles in one flight, it can evade quarantines. It's a pest all local gardeners will have to deal with; no areas are immune.

What do we know about the outlook for eucalyptus in California?

The triggering factor in borer infestation seems to be stress, whether from drought or pruning or root disturbance. Vigorous eucalypts can usually drown borers by producing a gush of



Eucalyptus borer tunnels may girdle the trunk, eventually killing the tree.



Phoracantha semipunctata (twice lifesize)

sap that floods the insects' tunnels. Senior Deputy Forester Herb Spitzer said that, among thousands of infested eucalypts he has examined in Los Angeles County, he has yet to see a well maintained landscape specimen succumb to borer attack.

So the essential defensive tactic seems to be reducing stress on the trees. How? Most important is to water the trees properly. This means deep watering beyond the dripline about once a month. Avoid disturbing the root zone when grading near established trees. Young trees also seem to be less susceptible.

To reduce stressful pruning, choose new eucalyptus plantings that will remain in scale with the landscape when mature. Since eucalypts may grow several feet each year, a young tree will soon need annual pruning if a too-large species was selected in the first place.

Several small *Eucalyptus* species are being evaluated at the Los Angeles State and County Arboretum as possible replacements if or when the susceptible *E. globulus* and *E. viminalis* fall to the borer. This issue of the newsletter carries a description of four recently imported species that even with the grim borer prognosis may keep the familiar eucalyptus family a part of the California landscape.

SCALED-DOWN EUCALYPTUS SHOW PROMISE AT ARBORETUM

Aware of the growing interest in low-water, low-maintenance landscapes for Southern California gardens, the Department of Arboreta and Botanic Gardens has recently planted a number of smaller, ornamental *Eucalyptus* species in the Australian section of the Los Angeles County Arboretum and at the South Coast Botanic Garden. Not only do these selected species thrive with minimal irrigation, they also appear to be less prone to attack by the increasingly troublesome eucalyptus borer than their taller relatives. Lastly, all of these attractive species are in scale with typical residential plantings.

Examples of these fine ornamentals include: *E. burdettiana*, a shrub or small tree with smooth trunks, large greenish-yellow flowers in groups of three to seven, and interesting round

to bell-shaped brown woody fruits; *E. pyriformis* a shrub or treelike shrub to 20 feet tall with flowers up to four inches across in shades of red, pink, yellow or cream; *E. preissiana*, a spreading medium shrub to 12 feet tall with bright to golden-yellow two-inch wide flowers and large ornamental seed capsules; and *E. kruseana* with ornamental bark, buds, flowers and fruits plus striking silver-blue round, one-inch wide leaves.

A review of the catalogs of several large wholesale growers shows that these and other outstanding small ornamental eucalyptus are not currently available in the nursery trade. The Department hopes that by stimulating public interest in these plants, growers will contribute by making these plants more widely grown and appreciated.



Eucalyptus burdettiana



Eucalyptus kruseana

CALENDAR

JULY 8	Summer Plant Sale Arboretum 9 am to 4 pm Rare and unusual palms, summer-blooming Arboretum introductions	OCT. 14-15	Benefit Plant Sale Descanso Gardens 9 am to 4 pm California native plants, horticultural antiques & specialities from Descanso's own collection
JULY 22	Water Conservation Symposium Xeriscape for the Homeowner Arboretum 9 am to 4 pm Experts tell how to keep gardens colorful and growing with little water \$15 registration includes lunch	OCT. 20-29	Los Angeles Garden Show "At Home in the Garden" Arboretum 10 am to 6 pm New ideas in garden design, plants and outdoor structures Adults \$6, discount for seniors, youths and students
SEPT. 16	Orchid Symposium Arboretum 9 am to 4 pm Internationally known panel of specialists speak, tours of Arboretum's new greenhouse and collection of 10,000 orchids \$17.50 registration includes lunch	DEC. 2-12	Christmas Show Descanso Gardens 10 am to 4 pm Exciting holiday decoration for indoors and out. Free tram to Hospitality House

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Virginia Robinson Gardens
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